

CLAIMS

1. Ozone generator, comprising

a dielectric member having first and second faces;

5 a first electrode provided on the first face of said dielectric member;

a second electrode provided on the second face of said dielectric member; wherein

the first electrode is made of an electrically conductive material, having a first
and a second face, and wherein the first face of the first electrode and the first face of the
dielectric member are structured so as to define at least one channel between them, said
10 channel(s) extending in a defined pattern between said dielectric member and said first
electrode.

2. Ozone generator as claimed in claim 1, wherein said first electrode has at least one
elongated recess in its first face, said first face being in contact with said first face of said
15 dielectric member, such that said recess(s) and said dielectric member define channels in
cooperation.

3. Ozone generator as claimed in claim 1, wherein said dielectric member has at least one
elongated recess in its first face, said first face being in contact with said first face of said first
20 electrode, such that said recess(s) and said first electrode define channels in cooperation.

4. Ozone generator as claimed in claim 1, wherein said dielectric member and said first
electrode each has at least one elongated recess in their respective first faces, and wherein said
first face of said dielectric member being in contact with said first face of said first electrode,
25 such that said recess(s) of said dielectric member and said first electrode define channels in
cooperation.

5. Ozone generator as claimed in any preceding claim, wherein the second electrode is a
conductive plate or foil placed in contact with the dielectric member second face.

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6. Ozone generator as claimed in claim 1, wherein the second electrode is a coating provided
on the dielectric member second face.

7. Ozone generator as claimed in claim 1, wherein the metal for the electrodes is selected from one or more of the members in the group consisting of iron, steel, tungsten, titanium, or alloys thereof.

5 8. Ozone generator as claimed in claim 1, wherein the first electrode is comprised of a corrugated or pleated conductive plate.

9. Ozone generator as claimed in claim 1, wherein said recesses extend across the surface at a finite spacing between them.

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10. Ozone generator as claimed in claim 1, wherein said recesses have a cross section geometry that provides sites for corona discharge to occur, when a AC high voltage is applied to said electrode

15 11. Ozone generator as claimed in claim 10, wherein said corona discharge sites comprises a sharp ridge.

12. Ozone generator as claimed in claim 11, wherein said sharp ridge is provided by shaping the recess geometry as two overlapping semi-circles, the intersection of which generates said
20 ridge, which extends in the longitudinal direction of the recess.

13. Ozone generator as claimed in claim 10, wherein said corona discharge sites comprises a rounded off corner in the vicinity of the surface of said base plate, providing a nook between the channel wall and the base plate.

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14. Ozone generator as claimed in claim 1, comprising a second dielectric member contacting the second face of said first electrode, and wherein said first electrode comprises at least one recess in both the first and the second face thereof, said second dielectric member comprising a third electrode provided on that face of the second dielectric member that is not in contact
30 with said second face of said first electrode.

15. Ozone generator as claimed in claim 1, wherein said dielectric member(s) and said electrodes are essentially flat.

16. Ozone generator as claimed in claim 1, wherein said dielectric member(s) and said electrodes are tubular.

17. Ozone generator as claimed in claim 1, wherein said dielectric member(s) and said
5 electrodes are arcuate, arched, curved or bent.

18. Ozone generator, comprising

a flat dielectric plate having first and second faces;

a first electrode provided on the first face of said plate;

10 a second electrode provided on the second face of said plate;

connectors for coupling said electrodes to a voltage source;

wherein the first electrode is an electrically conductive plate, having a first and a second face, and having at least one elongated recess in said first face, said first face being in contact with said first face of said dielectric plate, such that said recess(s) and said dielectric
15 plate define channels in cooperation with said dielectric plate.